

REMARKS

This Application has been carefully considered in connection with the Office Action dated March 12, 2003. Claims 1-9 are pending. Claims 1 and 2 have been amended by this response. Reconsideration and allowance are respectfully requested in light of the foregoing amendments and the following remarks. The Examiner states that Claims 3-9 are allowable over the prior art of record, for which Applicants thank the Examiner.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 4,015,213 to Hamada. Insofar as they may be applied against these claims as amended, these rejections are respectively traversed.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being unpatentable over Hamada. Claim 1 has been amended to more particularly recite a patentably distinguishing characteristic of the present invention, that of “a second pulse width modulated control signal supplying means, wherein both of the pair of pulse width modulated control signal supplying means have substantially equidistant start transition times.” Support for this amendment can be found, among other places, in FIGURE 2 and on page 5, line 15 to page 6, line 9 of the present Application.

Hamada does not disclose, teach or suggest Claim 1 as presently amended. Hamada is directed to generating input waveforms, S3 and S5, into a latch to generate PWM signals. However, as disclosed in Hamada, the input signals to the latch do not have substantially constant and equidistant start transition times. Instead, the start transition times will vary with the feedback over feedback circuit 8. Feedback circuit 8 affects and alters signal S4, which affects and alters signal S5. Signal S5 is input into the latch 15. Changes in signal S5 affect the

signal transition time as compared to S3, the other input signal into the latch. Furthermore, changes to signal S6, which is a function in part of the input signal S5, generate further changes in signal S3. Therefore, both of the input signals S3 and S5 to the latch 15 can vary. Therefore, the input signals to the latch of Hamada are neither substantially constant nor substantially equidistant.

In the invention of Claim 1 as presently amended, the input signals are substantially constant and equidistant. This provides advantages that are not disclosed in Hamada. For instance, the input signals "A" and "B" of the present Application can be generated by a variety of sources that use an industry standard for input driver signals. This industry standard can include existing integrated circuits for use as a drive signal source for the PWM generator, such as the Texas Instrument integrated circuit sold under the designation UC2825ADW. Using substantially constant and equidistant signals of the invention of Claim 1 can provide simplified drive circuitry to the latch, as compared to the latch drive circuitry of Hamada. This simplification can thereby save complexity and cost in the input signal driver circuit.

In view of the foregoing, it is apparent that the cited reference, either singularly or in combination with any other references, does not disclose, teach, or suggest the unique combination now recited in independent Claim 1. It is therefore submitted that Claim 1 clearly and precisely distinguishes over the cited reference in a patentable sense. Therefore, it is also submitted that Claim 1 is allowable over this reference and the remaining references of record. Accordingly, it is respectfully requested that the rejection of Claim 1 under 35 U.S.C. § 102(b) as unpatentable over Hamada be withdrawn.

Claim 2 stands rejected under 35 U.S.C. § 102(b) as unpatentable over Hamada. Claim 2 has been amended to more particularly recite a patentably distinguishing characteristic of the present invention, that of “a second pulse width modulated control signal supplying means, wherein both of the pair of pulse width modulated control signal supplying means have substantially constant and equidistant start transition times.” Support for this amendment can be found, among other places, in FIGURE 2 and on page 5, line 15 to page 6, line 9 of the present Application.

Applicants respectfully assert that independent Claim 2 is patentable over Hamada. Applicants further respectfully assert that Claim 2 is patentable for at least some of the same reasons that independent Claim 1 is patentable. Hamada discloses the modification of input signals to a latch through various feedback loops related to the output PWM signal. However, Hamada does not disclose, teach or suggest using control signals having substantially constant and equidistant start transition times.

In view of the foregoing, it is apparent that the cited reference, either singularly or in combination with other references, does not disclose, teach or suggest the unique combination now recited in independent Claim 2. It is therefore submitted that Claim 2 clearly and precisely distinguishes over the cited reference in a patentable sense. Therefore, it is also submitted that Claim 2 is allowable over this reference and the remaining references of record. Accordingly, it is respectfully requested that the rejection of Claim 2 under 35 U.S.C. § 102(b) as being unpatentable over Hamada be withdrawn.

ATTORNEY DOCKET NO.
VPI 2426000

PATENT APPLICATION
SERIAL NO. 10/077,408

Applicants have now made an earnest attempt to place this application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of Claims 1 through 9.

Applicants do not believe any fees are due in connection with the filing of this paper; however, in the event that any fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 50-0605 of the CARR LLP.

Should the Examiner have any questions or desire clarification of any sort, or deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

Date: 5/12/03


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FIG. 2

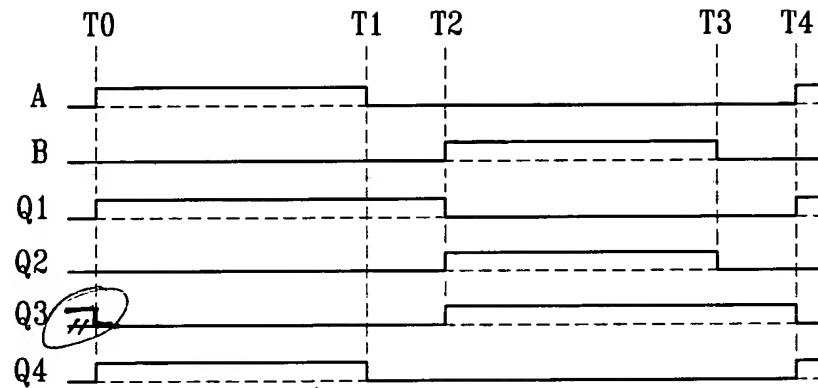


FIG. 3

